IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A network operations support system <u>operated by a third party</u> for supporting multiple service providers, each having end-users connected to a common network <u>operated by the third party, the multiple service providers each being a customer of the third party</u>, comprising:

a digital repository populated with

entries including information about end-users of a first service provider of the multiple service providers and other information about end-users of a second service provider of the multiple service providers[;]<u>, and</u>

<u>entries including billing information corresponding to usage of the common network by end-users of at least one of the multiple service providers</u>;

a processor; and

a computer readable medium encoded with processor readable instructions that when executed by the processor implement,

a common interface mechanism configured to provide a single user interface for the first service provider and the second service provider to access entries in the digital repository, the first service provider having access to entries regarding the end-users of the first service provider and the second service provider having access to entries regarding the end-users of the second service provider,

<u>a common provisioning mechanism configured to provision end-users to the common network and to confirm that a selected service provider of the first service provider</u>

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and the second service provider is a customer of the third party prior to provisioning an end-user of the selected service provider to the common network, and

a customer billing mechanism configured to maintain billing information in the digital repository for the third party and to generate a bill for each of the multiple service providers having at least one end-user connected to the third party's common network based on usage of the common network by the service provider's respective end-users.

Claim 2 (Original): The system of Claim 1, wherein:

the digital repository is further populated with entries including network management information; and

the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

a network management mechanism configured to access and maintain entries in the digital repository regarding network management information.

Claim 3 (Original): The system of Claim 2, wherein the network management information includes network status monitoring information.

Claim 4 (Original): The system of Claim 1, wherein:

the digital repository is further populated with

entries including network usage information, and

entries including end-user provisioning information; and

the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

an end-user management mechanism configured to access and

maintain entries in the digital repository regarding at least one of network usage information

and end-user provisioning information.

Claim 5 (Original): The system of Claim 4, wherein:

the network usage information includes at least one of end-user connectivity duration

and end-user connectivity time-of-day information; and

the end-user provisioning information includes at least one of end-user equipment

information, level of service information, and end-user service provider information.

Claim 6 (Original): The system of Claim 1, wherein the common interface

mechanism is further configured to provide secure access to entries in the digital repository.

Claim 7 (Original): The system of Claim 6, wherein the common interface

mechanism provides secure access by at least one of accepting traffic from a predetermined

set of IP addresses, encryption using secure shell, encryption using secure hypertext transfer

protocol, user authentication by username and password, and user authentication by a one-

time password technology.

Claim 8 (Original): The system of Claim 1, wherein the common interface

mechanism comprises a single web portal.

Claim 9 (Original): The system of Claim 8, wherein the common interface

mechanism further comprises automated interfaces implemented as at least one of an

extensible markup language interface, a file transfer protocol interface, an rsync Internet

protocol interface, and an electronic mail interface.

Claim 10 (Original): The system of Claim 1, wherein the digital repository comprises

a database.

Claim 11 (Original): The system of Claim 2, wherein the common interface

mechanism is further configured to provide access to the network management mechanism

for network management personnel.

Claim 12 (Original): The system of Claim 2, wherein the computer readable medium

is further encoded with processor readable instructions that when executed by the processor

implement

an internal personnel access mechanism configured to provide internal personnel with

direct access to the network management mechanism.

Claim 13 (Original): The system of Claim 4, wherein the common interface

mechanism is further configured to provide access to the end-user management mechanism

for at least one of the multiple service providers and network management personnel.

Claim 14 (Original): The system of Claim 4, wherein the computer readable medium

is further encoded with processor readable instructions that when executed by the processor

implement

an internal personnel access mechanism configured to provide internal personnel with

direct access to the end-user management mechanism.

Claim 15 (Original): The system of Claim 1, wherein the common network comprises a network dedicated to broadband data transport services.

Claim 16 (Original): The system of Claim 15, wherein the broadband data transport services comprise at least one of Internet access, packetized voice, voice over IP, and video on demand.

Claim 17 (Original): The system of Claim 1, wherein the common network comprises an open access network.

Claim 18 (Original): The system of Claim 1, wherein at least a portion of the common network comprises an Internet protocol network.

Claim 19 (Original): The system of Claim 1, wherein at least a portion of the common network comprises a hybrid fiber optic coaxial network.

Claim 20 (Original): The system of Claim 1, wherein the at least one of the multiple service providers comprises an Internet service provider.

Claim 21 (Original): The system of Claim 1 wherein:

the digital repository is further populated with entries including service availability information; and

the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

a service availability mechanism configured to access and maintain entries in the digital repository regarding service availability information.

Claim 22 (Original): The system of Claim 21, wherein the service availability information includes information regarding geographic availability of the common network.

Claim 23 (Original): The system of Claim 21, wherein the common interface mechanism is further configured to provide access to the service availability mechanism for at least one of the multiple service providers and network management personnel.

Claim 24 (Original): The system of Claim 21, wherein the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

an internal personnel access mechanism configured to provide internal personnel with direct access to the service availability mechanism.

Claim 25 (Original): The system of Claim 1, wherein:

the digital repository is further populated with entries including network asset management information corresponding to assets of the common network; and

the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

a network asset management mechanism configured to access and maintain entries in the digital repository regarding network asset management information.

Claim 26 (Original): The system of Claim 25, wherein the common interface mechanism is further configured to provide access to the network asset management mechanism for network management personnel.

Claim 27 (Original): The system of Claim 25, wherein the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

an internal personnel access mechanism configured to provide internal personnel with direct access to the network asset management mechanism.

Claim 28 (Original): The system of Claim 25, wherein the network asset management information includes at least one of a device media access control address, a date of installation, and an inventory location indicator.

Claim 29 (Original): The system of Claim 1, wherein:

the digital repository is further populated with entries including trouble ticket status information; and

the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

a trouble ticketing mechanism configured to access and maintain entries in the digital repository regarding trouble ticket information.

Claim 30 (Original): The system of Claim 29, wherein the common interface mechanism is further configured to provide access to the trouble ticketing mechanism for at least one of the multiple service providers and network management personnel.

Claim 31 (Original): The system of Claim 29, wherein the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

an internal personnel access mechanism configured to provide internal personnel with direct access to the trouble ticketing mechanism.

Claim 32 (Original): The system of Claim 29, wherein the trouble ticket status information includes at least one of a trouble ticket status indicator, a problem indicator, an impacted end-user indicator, and a service provider indicator.

Claim 33 (Original): The system of Claim 1, wherein:

the digital repository is further populated with entries including workforce management information; and

the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

a workforce management mechanism configured to access and maintain entries in the digital repository regarding workforce management information.

Claim 34 (Original): The system of Claim 33, wherein the common interface mechanism is further configured to provide access to the workforce management mechanism for at least one of the multiple service providers and network management personnel.

Claim 35 (Original): The system of Claim 33, wherein the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

an internal personnel access mechanism configured to provide internal personnel with direct access to the workforce management mechanism.

Claim 36 (Original): The system of Claim 33, wherein the workforce management information includes at least one of a workorder description indicator, a workorder status indicator, an assigned truck indicator, a confirmation number indicator, and an appointment time indicator.

Claims 37-38 (Canceled):

Claim 39 (Currently Amended): The system of Claim 3̶8̶ 1, wherein the common interface mechanism is further configured to provide access to the <u>customer</u> billing mechanism for at least one of the multiple service providers and network management personnel.

Claim 40 (Currently Amended): The system of Claim 3̶8̶ 1, wherein the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

an internal personnel access mechanism configured to provide internal personnel with direct access to the <u>customer</u> billing mechanism.

Claim 41 (Currently Amended): The system of Claim 38 1, wherein the billing information includes at least one of an end-user identification indicator, a service level purchased indicator, an end-user service provider indicator, a usage amount indicator, a detailed billing amount, a cumulative billing amount, and a billing period indicator.

Claim 42 (Original): The system of Claim 1, wherein:

the digital repository is further populated with entries including general ledger and accounts payable information corresponding to at least one of the multiple service providers; and

the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

a general ledger and accounts payable mechanism configured to access and maintain entries in the digital repository regarding general ledger and accounts payable information.

Claim 43 (Original): The system of Claim 42, wherein the common interface mechanism is further configured to provide access to the general ledger and accounts payable mechanism for network management personnel.

Claim 44 (Original): The system of Claim 42, wherein the computer readable medium is further encoded with processor readable instructions that when executed by the processor implement

an internal personnel access mechanism configured to provide internal personnel with direct access to the general ledger and accounts payable mechanism.

Claim 45 (Original): The system of Claim 1, wherein at least a portion of the common network comprises a Data Over Cable Service Interface Specification network.

Claim 46 (Original): The system of Claim 1, wherein at least a portion of the common network comprises a European Data Over Cable Service Interface Specification.

Claim 47 (Original): The system of Claim 1, wherein the digital repository is implemented as a single instance of a database.

Claim 48 (Original): The system of Claim 1, wherein the digital repository is implemented as at least two instances of a database, at least one of the at least two instances of the database serving as a master database.

Claim 49 (Original): The system of Claim 1, wherein the common interface mechanism is further configured to be customizable by each of the multiple service providers.

Claim 50 (Original): The system of Claim 49, wherein the common interface mechanism may be customized by at least one of using a sales script and adding a logo.

Claim 51 (Original): The system of Claim 1, wherein the common interface mechanism is further configured such that each of the multiple service providers may restrict access based on at least one of a userid and a role.

Claim 52 (Original): The system of Claim 1, wherein the computer readable medium

is further encoded with processor readable instructions that when executed by the processor

implement

an internal personnel access mechanism configured to provide internal personnel

access to the digital repository.

Claim 53 (Currently Amended): A computer program product, comprising:

a computer storage medium; and

a computer program code mechanism embedded in the computer storage medium for

causing a processor to support multiple service providers each having end-users connected to

a common network operated by the third party, the multiple service providers each being a

customer of the third party, the computer program code mechanism having,

a first computer code device configured to provide a single user interface for a

first service provider of the multiple service providers and a second service provider of the

multiple service providers for accessing information in a database, the first service provider

having access to entries of the database regarding the end-users of the first service provider

and the second service provider having access to entries of the database regarding the end-

users of the second service provider,

a second computer code device configured to provision end-users to the

common network and to confirm that a selected service provider of the first service provider

and the second service provider is a customer of the third party prior to provisioning an end-

user of the selected service provider to the common network, and

a third computer code device configured to maintain billing information for

the third party in the database corresponding to each of the multiple service providers having

at least one end-user connected to the third party's common network and to generate a bill for

each of the multiple service providers having at least one end-user connected to the third party's common network based on usage of the common network by the service provider's respective end-users.

Claim 54 (Currently Amended): The computer program product of Claim 53, further comprising:

a ~~second~~ fourth computer code device configured to maintain network management information in the database, wherein

the first computer code device is further configured to provide network management personnel with access to the ~~second~~ fourth computer code device to maintain entries of the database regarding network management information.

Claim 55 (Currently Amended): The computer program product of Claim 54, further comprising:

a ~~third~~ fifth computer code device configured to provide internal personnel with direct access to the ~~second~~ third computer code device to maintain entries of the database regarding network management information.

Claim 56 (Original): The computer program product of Claim 53, wherein the first computer code device is further configured to provide secure access to entries in the database.

Claim 57 (Currently Amended): The computer program product of Claim 53, further comprising:

a ~~second~~ fourth computer code device configured to maintain at least one of network usage information and end-user provisioning information in the database, wherein

the first computer code device is further configured to provide at least one of the

multiple service providers and network management personnel with access to the ~~second~~

<u>fourth</u> computer code device to maintain entries of the database regarding the at least one of

network usage information and end-user provisioning information

Claim 58 (Currently Amended): The computer program product of Claim 57, further

comprising:

a ~~third~~ <u>fifth</u> computer code device configured to provide internal personnel with direct

access to the ~~second~~ <u>fourth</u> computer code device to maintain entries of the database

regarding the at least one of network usage information and end-user provisioning

information.

Claim 59 (Canceled):

Claim 60 (Original): The computer program product of Claim 53, wherein the

common network comprises a network dedicated to broadband data transport services.

Claim 61 (Original): The computer program product of Claim 60, wherein the

broadband data transport services comprise at least one of Internet access, packetized voice,

voice over IP, and video on demand.

Claim 62 (Original): The computer program product of Claim 53, wherein the

common network comprises an open network.

Claim 63 (Original): The computer program product of Claim 53, wherein at least a portion of the network comprises an Internet protocol network.

Claim 64 (Original): The computer program product of Claim 53, wherein at least a portion of the network comprises a hybrid fiber optic coaxial network.

Claim 65 (Original): The computer program product of Claim 53, wherein at least one of the multiple service providers comprises an Internet service provider.

Claim 66 (Currently Amended): The computer program product of Claim 53, further comprising:

a ~~second~~ fourth computer code device configured to maintain service availability information in the database, wherein

the first computer code device is further configured to provide at least one of the multiple service providers and network management personnel with access to the ~~second~~ fourth computer code device to access entries of the database regarding service availability information.

Claim 67 (Currently Amended): The computer program product of Claim 66, further comprising:

a ~~third~~ fifth computer code device configured to provide internal personnel with direct access to the ~~second~~ fourth computer code device to maintain entries of the database regarding service availability information.

Claim 68 (Currently Amended): The computer program product of Claim 53, further comprising:

a ~~second~~ fourth computer code device configured to maintain network asset management information in the database, wherein

the first computer code device is further configured to provide at least one of the multiple service providers and network management personnel with access to the ~~second~~ fourth computer code device to maintain entries of the database regarding network asset management information.

Claim 69 (Currently Amended): The computer program product of Claim 68, further comprising:

a ~~third~~ fifth computer code device configured to provide internal personnel with direct access to the ~~second~~ fourth computer code device to maintain entries of the database regarding network asset management information.

Claim 70 (Currently Amended): The computer program product of Claim 53, further comprising:

a ~~second~~ fourth computer code device configured to maintain trouble ticket status information in the database, wherein

the first computer code device is further configured to provide at least one of the multiple service providers and network management personnel with access to the ~~second~~ fourth computer code device to maintain entries of the database regarding trouble ticket status information.

Claim 71 (Currently Amended): The computer program product of Claim 70, further comprising:

a ~~third~~ fifth computer code device configured to provide internal personnel with direct access to the ~~second~~ fourth computer code device to maintain entries of the database regarding trouble ticket status information.

Claim 72 (Currently Amended): The computer program product of Claim 53, further comprising:

a ~~second~~ fourth computer code device configured to maintain workforce management information in the database, wherein

the first computer code device is further configured to provide at least one of the multiple service providers and network management personnel with access to the ~~second~~ fourth computer code device to maintain entries of the database regarding workforce management information.

Claim 73 (Currently Amended): The computer program product of Claim 72, further comprising:

a ~~third~~ fifth computer code device configured to provide internal personnel with direct access to the ~~second~~ fourth computer code device to maintain entries of the database regarding workforce management information.

Claim 74 (Currently Amended): The computer program product of Claim 53, ~~further comprising:~~

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~~a second computer code device configured to access billing information corresponding to usage of the common network by the end-users of the first service provider and the end-users of the second service provider in the database;~~

~~a third computer code device configured to maintain billing information corresponding to usage of the common network by the end-users of the first service provider and the end-users of the second service provider in the database; and~~

~~a fourth computer code device configured to generate bills for the first service provider and the second service provider based on usage of the common network by respective end-users,~~ wherein:

the first computer code device is further configured to provide at least one of the multiple service providers and network management personnel with access to the ~~second~~ third computer code device to access entries of the database regarding billing information, and to provide network management personnel with access to ~~at least one of~~ the third computer code device ~~and the fourth computer code device~~ to maintain entries of the database regarding billing information.

Claim 75 (Currently Amended): The computer program product of Claim 74, further comprising:

a ~~fifth~~ fourth computer code device configured to provide internal personnel with direct access to the third computer code device to maintain entries of the database regarding billing information.

Claim 76 (Currently Amended): The computer program product of Claim 53, further comprising:

a ~~second~~ <u>fourth</u> computer code device configured to maintain general ledger and

accounts payable information in the database, wherein

the first computer code device is further configured to provide network management

personnel with access to the ~~second~~ <u>fourth</u> computer code device to maintain entries of the

database regarding general ledger and accounts payable information.

Claim 77 (Currently Amended): The computer program product of Claim 76, further

comprising:

a ~~third~~ <u>fifth</u> computer code device configured to provide internal personnel with direct

access to the ~~second~~ <u>fourth</u> computer code device to maintain entries of the database

regarding general ledger and accounts payable information.

Claim 78 (Original): The computer program product of Claim 53, wherein at least a

portion of the common network comprises a Data Over Cable Service Interface Specification

network.

Claim 79 (Original): The computer program product of Claim 53, wherein at least a

portion of the common network comprises a European Data Over Cable Service Interface

Specification network.

Claim 80 (Original): The computer program product of Claim 53, wherein the first

computer code device is further configured to provide a single user interface that is

customizable by each of the multiple service providers.

Claim 81 (Original): The computer program product of Claim 80, wherein the single user interface may be customized by at least one of using a sales script and adding a logo.

Claim 82 (Original): The computer program product of Claim 53, wherein the first computer code device is further configured such that each of the multiple service providers may restrict access to the single user interface based on at least one of a userid and a role.

Claim 83 (Currently Amended): A method for providing operations support for a first service provider of multiple service providers and a second service provider of multiple service providers, each having end-users connected to a common network, comprising the steps of:

provisioning a first end-user of the first service provider onto the common network using a common provisioning system;

storing first end-user information in a database corresponding to the first end-user;

associating the first end-user information with the first service provider in the database;

provisioning a second end-user of the second service provider onto the common network using the common provisioning system;

storing second end-user information in the database corresponding to the second end-user;

associating the second end-user information with the second service provider in the database; and

accessing information in the database via a single user interface by the first service provider and the second service provider, the first service provider having access to

information regarding end-users of the first service provider and the second service provider

having access to information regarding end-users of the second service provider;

monitoring a usage of the common network by the first end-user;

storing a first end-user usage entry in the database corresponding to a level of usage

of the common network by the first end-user;

associating the first end-user usage entry with the first end-user in the database;

querying the database for the first end-user usage entry and the first end-user entry;

generating first end-user billing information for the first end-user based on the first

end-user usage entry and the first end-user entry;

storing a first end-user billing entry corresponding to first end-user billing information

generated in the generating first end-user billing information step in the database;

associating the first end-user billing entry with the first end-user in the database;

monitoring a usage of the common network by the second end-user;

storing a second end-user usage entry in the database corresponding to a level of

usage of the common network by the second end-user;

associating the second end-user usage entry with the second end-user in the database;

querying the database for the second end-user usage entry and the second end-user

entry;

generating second end-user billing information for the second end-user based on the

second end-user usage entry and the second end-user entry;

storing a second end-user billing entry corresponding to second end-user billing

information generated in the generating second end-user billing information step in the

database; and

associating the second end-user billing entry with the second end-user in the database.

Claim 84 (Original): The method of Claim 83, further comprising the steps of:

monitoring a status of the common network;

storing network management information in the database corresponding to the status of the common network determined in the monitoring step; and

accessing the network management information in the database via the single user interface by network management personnel.

Claim 85 (Original): The method of claim 83, further comprising the steps of:

gathering first end-user provisioning information from the first end-user;

storing the first end-user provisioning information in the database;

associating the first end-user provisioning information with the first end-user in the database;

monitoring a usage of the common network by the first end-user;

storing first end-user network usage information in the database corresponding to the usage of the common network by the first end-user;

associating the first end-user network usage information with the first end-user in the database;

gathering second end-user provisioning information from the second end-user;

storing the second end-user provisioning information in the database;

associating the second end-user provisioning information with the second end-user in the database;

monitoring a usage of the common network by the second end-user;

storing second end-user network usage information in the database corresponding to the usage of the common network by the second end-user; and

associating the second end-user network usage information with the second end-user in the database.

Claim 86 (Original): The method of Claim 83, wherein the accessing step comprises providing secure access to the database to entries in the database.

Claim 87 (Original): The method of Claim 86, wherein secure access is provided by at least one of accepting traffic from a predetermined set of IP addresses, encryption using secure shell, encryption using secure hypertext transfer protocol, user authentication by username and password, and user authentication by one-time password technology.

Claim 88 (Original): The method of Claim 83, wherein the accessing step comprises accessing the database through a single web portal.

Claim 89 (Original): The method of Claim 83, wherein the accessing step comprises accessing the database through an automated interface implemented as at least one of an extensible markup language interface, a file transfer protocol interface, an rsync Internet protocol interface, and an electronic mail interface.

Claim 90 (Original): The method of Claim 83, wherein the common network comprises a network dedicated to broadband data transport services.

Claim 91 (Original): The method of Claim 90, wherein the broadband data transport services comprise at least one of Internet access, packetized voice, voice over IP, and video on demand.

Claim 92 (Original): The method of Claim 83, wherein the common network comprises an open access network.

Claim 93 (Original): The method of Claim 83, wherein at least a portion of the common network comprises an Internet protocol network.

Claim 94 (Original): The method of Claim 83, wherein at least a portion of the common network comprises a hybrid fiber optic coaxial network.

Claim 95 (Original): The method of Claim 83, wherein at least a portion of the common network comprises a Data Over Cable Service Interface Specification network.

Claim 96 (Original): The method of Claim 83, wherein at least a portion of the common network comprises a European Data Over Cable Service Interface Specification network.

Claim 97 (Original): The method of Claim 83, wherein at least one of the multiple service providers comprises an Internet service provider.

Claim 98 (Original): The method of claim 83, further comprising the steps of:

gathering service availability information corresponding to a geographic availability of the common network;

storing the service availability information in the database;

requesting connectivity to the common network by a third end-user to one of the first

service provider and the second service provider;

querying the service availability information in the database via the single user

interface by the one of the first service provider and the second service provider to determine

an availability for the third end-user; and

indicating to the third end-user that the common network is one of available and not

available based on a result of the querying step.

Claim 99 (Original): The method of Claim 83, further comprising the steps of:

storing network asset management information in the database corresponding to

components of the common network;

accessing the network asset management information in the database via the single

user interface by network management personnel.

Claim 100 (Original): The method of Claim 83, further comprising the steps of:

opening a first trouble ticket by the first service provider via the single user interface;

storing a first trouble ticket entry in the database corresponding to the first trouble

ticket;

associating the first trouble ticked entry with the first service provider in the database;

opening a second trouble ticket by the second service provider via the single user

interface;

storing a second trouble ticket entry in the database corresponding to the second

trouble ticket;

associating the second trouble ticket entry with the second service provider in the

database;

querying the database for at least one of the first trouble ticket entry and the second

trouble ticket entry by network management personnel;

updating a status of the at least one of the first trouble ticket entry and the second

trouble ticket entry by network personnel; and

storing the at least one of the first trouble ticket entry and the second trouble ticket

entry in the database with the status as updated in the updating step.

Claim 101 (Original): The method of Claim 100, further comprising the step of:

associating at least one of the first trouble ticket and the second trouble ticket with an

end-user in the database indicating a particular end-user having a problem.

Claim 102 (Original): The method of Claim 83, further comprising the steps of:

storing a workforce management entry in the database corresponding to workforce

availability;

querying the database for the workforce management entry to determine workforce

availability to provide connectivity to at least one of the first end-user and the second end-

user;

updating the workforce management entry to schedule an appointment to provide

connectivity to the at least one of the first end-user and the second end-user;

storing the workforce management entry in the database as updated in the updating

step; and

indicating to the at least one of the first end-user and the second end-user the

appointment scheduled in the updating step.

Claim 103 (Canceled):

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Claim 104 (Currently Amended): The method of Claim 8̶0̶ 83, further comprising the

step of:

sending to at least one of the multiple service providers, billing information

corresponding to respective end-users.

Claim 105 (Original): The method of Claim 83, further comprising the steps of:

stroring general ledger and accounts payable information in the database; and

accessing the general ledger and accounts payable information via the single user

interface by network management personnel.

Claim 106 (Currently Amended): A system for providing operations support for a

first service provider of multiple service providers and a second service provider of multiple

service providers, each having end-users connected to a common network, comprising:

means for provisioning a first end-user of the first service provider onto the common

network;

means for storing a first end-user entry in a database corresponding to the first end-

user;

means for associating the first end-user entry with the first service provider in the

database;

means for provisioning a second end-user of the second service provider onto the

common network;

means for storing a second end-user entry in the database corresponding to the second

end-user;

means for associating the second end-user entry with the second service provider in

the database; a̶n̶d̶

means for accessing information in the database via a single user interface by the first service provider and the second service provider, the first service provider having access to entries regarding end-users of the first service provider and the second service provider having access to entries regarding end-users of the second service provider;

means for monitoring a usage of the common network by the first end-user;

means for storing a first end-user usage entry in the database corresponding to a level of usage of the common network by the first end-user;

means for associating the first end-user usage entry with the first end-user in the database;

means for querying the database for the first end-user usage entry and the first end-user entry;

means for generating first end-user billing information for the first end-user based on the first end-user usage entry and the first end-user entry;

means for storing a first end-user billing entry corresponding to first end-user billing information generated in the generating first end-user billing information step in the database;

means for associating the first end-user billing entry with the first end-user in the database;

means for monitoring a usage of the common network by the second end-user;

means for storing a second end-user usage entry in the database corresponding to a level of usage of the common network by the second end-user;

means for associating the second end-user usage entry with the second end-user in the database;

means for querying the database for the second end-user usage entry and the second end-user entry;

means for generating second end-user billing information for the second end-user

based on the second end-user usage entry and the second end-user entry;

means for storing a second end-user billing entry corresponding to second end-user

billing information generated in the generating second end-user billing information step in the

database; and

means for associating the second end-user billing entry with the second end-user in

the database.

Claim 107 (Original): The system of Claim 1 wherein:

the computer readable medium is further encoded with processor readable instructions

that when executed by the processor implement

a data logging mechanism configured to maintain a log of entries regarding

end-user identification information.

Claim 108 (Original): The system of Claim 107, wherein the end-user identification

information includes at least one of an end-user device MAC address, a DHCP IP address

granted to an end-user device, and end-user service account information.

Claim 109 (Original): The system of Claim 107 wherein:

the computer readable medium is further encoded with processor readable instructions

that when executed by the processor implement

a data log access mechanism configured to provide access to the log of entries

maintained by the data logging mechanism for at least one of network management personnel

and at least one of the multiple service providers.

Claim 110 (Original): The system of Claim 109, wherein the common interface mechanism is further configured to provide a single user interface for the first service provider and the second service provider to access the log of entries maintained by the data logging mechanism, the first service provider having access to entries regarding end-users of the first service provider and the second service provider having access to entries regarding end-users of the second service provider.

Claim 111 (Original): The system of Claim 109, wherein the data log access mechanism is further configured to provide access to the log of entries via at least one of a file transfer protocol interface, an electronic mail interface, a web-based interface, and an rsync Internet protocol interface.

Claim 112 (Original): The system of Claim 109, wherein the data log access mechanism is further configured to provide access for network management personnel, the first service provider and the second service provider to access the log of entries maintained by the data logging mechanism, network management personnel having access to entries regarding all end-users, the first service provider having access to entries regarding end-users of the first service provider and the second service provider having access to entries regarding end-users of the second service provider.

Claim 113 (Currently Amended): The computer program product of Claim 53, further comprising:

a ~~second~~ fourth computer code device configured to maintain a log of entries regarding end-user identification information.

Claim 114 (Original): The computer program product of Claim 113, wherein the end-user identification information includes at least one of an end-user device MAC address, a DHCP IP address granted to an end-user device, and end-user service account information.

Claim 115 (Currently Amended): The computer program product of Claim 113, further comprising:

a ~~third~~ fifth computer code device configured to provide access to the log of entries maintained by the second computer code device for network management personnel, the first service provider and the second service provider, network management personnel having access to entries regarding all end-users, the first service provider having access to entries regarding end-users of the first service provider and the second service provider having access to entries regarding end-users of the second service provider.

Claim 116 (Original): The computer program product of Claim 53 wherein at least a portion of the computer program code mechanism is configured to be invoked through an application program interface.

Claim 117 (Currently Amended): The computer program product of Claim 53, further comprising:

a ~~second~~ fourth computer code device configured to perform at least one of data warehousing and data mining of information in the database.